STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Work processes design		**1011102231011126443**
Field of study	Profile of study (general academic, practical)	Year /Semester
Safety Engineering - Full-time studies - Second-	**(brak)**	**2 / 3**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
Work Safety Management	**Polish**	**obligatory**
Cycle of study:	Form of study (full-time,part-time)	
Second-cycle studies	**full-time**	
No. of hours		No. of credits
Lecture: **15** Classes: **15** Laboratory: **-** Project/seminars: **15**		**2**
Status of the course in the study program (Basic, major, other)	(university-wide, from another field)	
(brak)	**(brak)**	
Education areas and fields of science and art		ECTS distribution (number and %)

Responsible for subject / lecturer:

dr hab. inż. Małgorzata Sławińska
email: malgorzata.slawinska@put.poznan.pl
tel. 61 665 34 38
Faculty of Engineering Management
ul. Strzelecka 11 60-965 Poznań

Responsible for subject / lecturer:

dr inż. Małgorzata Sławińska
email: malgorzata.slawinska@put.poznan.pl
tel. 665-3438
Faculty of Engineering Management
ul. Strzelecka 11 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Students knows selected description methods and tools, including acquisition of data, modelling social structures and processes within these units
2	**Skills**	The Student is able to properly analyze the causes and course of processes and social phenomena, formulate his own opinions on this subject and make simple hypothesis as well as review them
3	**Social competencies**	The Student is able to properly determine priorities aimed at implementing specified by himself, or others, task

Assumptions and objectives of the course:

Teaching the students knowledge of methodology of designing work processes in various technological, service and conceptual-office industries.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. The Student has a basic knowledge about the life cycle of the equipment, facilities and technical systems, in the context of ergonomic considerations, also within safety, phases of the production process, division of process into components, specificity of human activity in manufacturing techniques, in services, conceptual-office work - [K2A_W20]
2. The Student has knowledge of time management and division of responsibilities - [K2A_W35]

Skills:

1. Student can acquire, integrate, interpret data from literature, database or other properly matched sources, both in English or other foreign language accepted as an international language of communication within Safety Engineering, as well as to draw conclusions, formulate and justify opinions - [K2A_U1]

2. The student can apply various techniques in order to communicate in occupational environment and other environments - [K2A_U2]

3. The student can create, both in English and Polish language, a well- documented report of problems within Safety Engineering, which present the results of their own research - [K2A_U3]

4. The student can prepare and give oral presentation relating to detailed issues within the realm of Safety Engineering in Polish and other foreign language - [K2A_U4]

5. The student has self-study ability and comprehends it - [K2A_U5]

6. The student can apply information-communicative techniques to deal with tasks that are typical of engineering activity - [K2A_U7]

7. The student can come up with a suggestion how to make use of state-of-the art technology (techniques and technology) within products design - [K2A_U12]

8. The student has got the preparation that is indispensable to be able to work in an industrial environment and also knows safety rules connected with a given work along with the ability to impose their use in practice - [K2A_U13]

9. The student can conduct a critical analysis of the ways in which technical solutions function and assess, by means of Safety Engineering, the existing technical solutions, in particular machines, equipment, objects, systems, services and processes - [K2A_U15]

10. The student can suggest some improvements of already existing technical solutions that are typical of Safety Engineering - [K2A_U16]

11. The student can assess the utility of routine methods and tools that are designed for solving simple engineering tasks of practical nature, characteristic to the safety engineering as well as choose and apply an appropriate method and tools and also use it effectively, bearing in mind non-technical aspects - [K2A_U17]

12. The student can, according to a given specification, design and operate simple equipment, object, system or a process, typical for Safety Engineering, wile using appropriate methods, techniques and tools, as well as solve complex engineering tasks, characteristic of Safety Engineering (including some uncommon ones which possess research component) - [K2A_U18]

13. The student can, according to the given specification, design and operate on a simple equipment, system or a process, which is typical of Safety Engineering, using appropriate and groundbreaking methods, techniques and tools - [K2A_U19]

Social competencies:

1. The student understands the need and knows means how to self-study (first, second and third cycle studies, postgraduate studies, qualification courses)- improving professional, personal and social competence; can argument the need to learn for the whole life - [K2A_K1]

2. The student is fully aware of the responsibility that he has taken for his own work and expresses readiness to comply with the rules of team work as well as responsibility for mutually realized and completed tasks - [K2A_K3]

3. The student can determine some causal relationships in the process of targets implementation and rank pertinence of alternative or competitive tasks - [K2A_K4]

Assessment methods of study outcomes

Formative assessment:

Classes: on the basis of a written problem task,

Projects: on the basis of a written report that contains gradual development stages in a system analysis of safety conditions of a selected organizational unit,

Lectures: on the basis of oral answers of the questions connected with the covered lecture content from current and previous lectures.

Collective assessment:

Classes: average of the grades achieved during classes,

Projects: collective assessment of the project and presentation,

Lectures: written test, which is based on 50% answers related to the selection of given answers and open questions. Credits will be given after achieving at least 31% of points. Answers are scores as0, 0,5 or 1

Course description

General characteristics of the design processes and the designed occupational systems. Phases of the production process. Division of work process into the components. Assessment of working methods. Principles of economics regarding working movements. Team work. Physical and mental workload and its organizational forms. The design of working time and the biological rhythm of a man. Working environment and its diagnosis. Specificity of human activity in manufacturing techniques, in services, conceptual-office work. Rules for design of humanized forms of organizing work

Basic bibliography:

1. Projektoznawstwo. Elementy wiedzy o projektowaniu, Gasparski W. (red.), WNT, Warszawa, 1988

2. Ergonomia w projektowaniu stanowisk pracy. Podstawy teoretyczne (Ergonomics in the design of work workplaces. Theoretical basis), Górska E., Tytyk E., Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 1998

3. Metodologia ergonomicznego kształtowania warunków pracy w montażu i ich przyczynowo-skutkowe powiązania z systemem jakości. (The methodology of ergonomic shaping of working conditions in an assembly and their cause-and-effect relationship with the quality system.), Kawecka-Endler A., Wyd. Politechniki Poznańskiej, Rozprawy, nr 333, Poznań, 1998

Additional bibliography:

1. Badanie metod i normowanie pracy (Reviewing methods and standardising work). Wołk R., Strzelecki J.T., Wyd. Politechniki Warszawskiej, Warszawa 1993

2. Diagnoza ergonomiczna stanowisk pracy (Diagnosis of ergonomic workplaces), Górska E., Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 1998

3. Organizacja pracy na stanowiskach roboczych (Organization of work in workplaces), Matczyński F., WNT, Warszawa, 1998

Result of average student's workload

Activity	Time (working hours)
1. Participation in lectures	15
2. Participation in classes	15
3. Participation in project classes	15
4. Preparation for classes	6
5. Preparation for project tasks	4
6. Preparation for written credits (based on lectures)	6
7. Overview of results (lectures)	2
8. Overview of results (classes)	2
9. Presentation of the semester project	2

Student's workload

Source of workload	hours	ECTS
Total workload	67	2
Contact hours	45	1
Practical activities	30	1